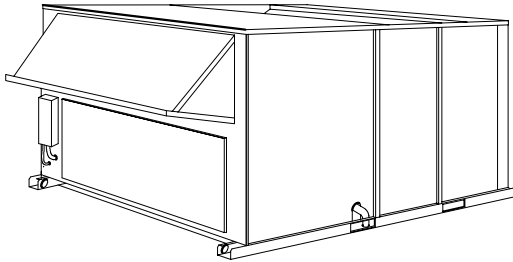


PGS SERIES

25 Ton Specification

TEMPSTAR®

Heating and Cooling Products



PGS300



Commercial Package Gas/Electric Units

REFRIGERATION CIRCUIT

- Each unit features two independent refrigerant circuits with a scroll compressor on each circuit. Refrigerant metering devices for each circuit are TXVs.
- Two stage cooling.
- Compressor protection includes high and low-pressure cutouts and over-temperature protection.
- Units are prewired and precharged with R-22 at the factory.
- Dual freezestat protection.
- Liquid line filter driers.
- Low outdoor temperature cooling operation to 40° F is standard.

HEATING

- Two Stage Heating
- Single point gas connection
- Induced draft combustion system uses manual reset roll-out switch and induced draft fan proving switch.
- Heating controls include a cycling ignition system with flame rectification sensor and redundant gas valve.
- Aluminized tubular heat exchangers.

BUILT TO LAST

- Cabinet made of pre-painted, baked enamel finish and insulated with neoprene-coated fiberglass.
- Commercial strength base rails with built-in rigging capability.
- Non-corrosive, sloped condensate drain pan, meets ASHRAE 62-89.
- Condenser fan motors are internally protected.
- Control circuit protected by circuit breaker.
- Units are factory tested in both heating and cooling modes.
- Warranty: Five year warranty on the compressors, One year warranty on parts

EASY TO INSTALL AND SERVICE

- Combination electric cooling and electric heat, self contained for year-round comfort. Unit shipped ready for downflow applications with conversion to horizontal airflow accomplished with accessory horizontal discharge roof curb.
- Single point electrical service entry.
- Horizontal supply available with adapter roof curb accessory. Power exhaust and barometric relief must be external to unit if used with horizontal supply/return.
- Manually adjustable outside air intake for up to 25% outside air.
- Adjustable speed main blower drives.
- Tool-less removal for filter access with two inch disposable-type fiberglass return air filters.

RESIDENTIAL AND COMMERCIAL SYSTEMS • SPLIT SYSTEMS • PACKAGED AIR CONDITIONERS • COMBINATION GAS / ELECTRIC UNITS • HEAT PUMPS • AIR HANDLERS • MANUFACTURED HOME AIR CONDITIONERS • GAS, OIL AND ELECTRIC FURNACES

International Comfort Products
650 Heil-Quaker Avenue, Lewisburg, TN 37091

509 21 2401 00

7/21/05

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MODEL NUMBER IDENTIFICATION GUIDE							
MODEL NUMBER	P	G	S	300	H	360	A
PRODUCT FAMILY Package Units							Sales Code
TYPE H= Heat Pump G = Gas/Electric A = Air Conditioner							GAS HEATING OPTIONS (BTUH) 360 = 360,000 275 = 275,000
DESIGN SERIES Standard Efficiency							VOLTAGE / PHASE / HERTZ H = 208/230-3-60 L = 460-3-60, S = 575-3-60
							COOLING CAPACITY (NOMINAL BTUH) 300 = 25 Ton

UNIT SPECIFICATIONS - MODELS					
COOLING	PGS300H275A	PGS300L275A	PGS300H360A	PGS300L360A	PGS300S360A
ARI Rated Capacity Btuh (Net)	270,000		268,000		
Nominal Tons	25		25		
Standard CFM	10,000		10,000		
EER	8.6		8.5		
IPLV	9.2		8.9		
Sound Rating (Bels)	9.4		9.4		
Base Unit Operating Weights (lbs)	2000		2000		
ELECTRICAL					
Volts/ 3 Phase/ 60Hertz	208/230	460	208/230	460	575
Voltage Range Min/Max	187 / 253	414 / 506	187 / 253	414 / 506	518 / 632
Power Supply MCA	134 / 134	66	134 / 134	66	55
Power Supply MOCP*	175 / 175	80	175 / 175	80	70
COMPRESSOR			SCROLL / Maneurop		
Quantity...Model	1...SM161 / 1...SM120				
No. of Circuits	2				
RLA / LRA Circuit #1	47.5 / 265	22.9 / 145	47.5 / 265	22.9 / 145	17.9 / 102
Circuit #2	33.0 / 237	16.2 / 130	33.0 / 237	16.2 / 130	12.7 / 85
Oil (Oz.) per circuit	CKT 1 = 112, CKT 2 = 110				
REFRIGERATION TYPE			R-22		
Expansion Device	TXV				
Operating Charge (lb. oz.) **	CKT 1 = 21-0 CKT 2 = 15-4				
CONDENSER FAN			Propeller Type		
Nominal CFM	12,500				
Quantity..Diameter (in.)	2...30				
Motor Hp...RPM (each)	1...1075				
Watts Input (Total)	3400	3400	3400	3400	3400
FLA	6.6	3.3	6.6	3.3	3.4
CONDENSER COIL			Cross Hatched 3/8 in. Copper Tubes, Aluminum		
Rows...Fin/In.	4...15				
Total Face Area (Sq. Ft..)	21.7				
EVAPORATOR COIL			Cross Hatch 3/8 in. Copper Tubes, Aluminum Lanced, Face Split		
Rows...Fins/Inche	4...15				
Total Face Area (sq. ft.)	17.5				
EVAPORATOR FAN			Centrifugal Type		
Quantity...Size (in.)	2...12 x 12				
Type Drive	Belt				
Nominal CFM	10,000				
Motor Hp, RPM, Max. Continuous Bhp	10.0, 1740, 10.2	10.0, 1740, 11.8	10.0, 1740, 10.2	10.0, 1740, 11.8	10.0, 1740, 10.2
FLA (Each)	28.0	14.6	28.0	14.6	13.0
Motor Frame Size	215T				
Fan RPM Range	1066-1283				
Motor Bearing	Ball				
Maximum Allowable RPM	1550				
Motor Pulley Pitch / Diameter Min/Max. (in.)	4.9 - 5.9				
Motor Shaft Diameter (in.)	1-3/8				
Fan Pulley Pitch Diam (in)	8.0				
Belt, Quantity...Type... Length (in.)	2.BX.50				
Pulley Center Line Distance (in)	14.6-15.4				
Speed Change per Full Turn of Movable Pulley Flange (RPM)	36				
Pulley Max. full Turns From Closed Postion	5				
Factory Setting	3.5				
Factory Speed Setting RPM	1182				
Fan Shaft Diam. at Pulley	1-7/16				
SEE LEGENDS AND NOTES ON FOLLOWING PAGES					

UNIT SPECIFICATIONS (CONT)		MODELS	
FURNACE SECTION		PGS300(H,L)275	PGS300(H,L,S)360
Rollout Switch Cutout Temp (F) +		190	190
Burner Orifice Diameter (in. .drill size) – Natural Gas		136...29	136...29
Thermostat Heat Anticipator Setting (amps)			
208/230 & 575 v	Stage 1	0.98	0.98
208/230 & 575 v	Stage 2	0.44	0.44
460 v	Stage 1	0.80	0.80
460 v	Stage 2	0.44	0.44
Gas Input (Btuh)			
Stage 2 / Stage 1		275,000 / 206,000	360,000 / 270,000
Output Capacity (Btuh)		223,000	292,000
Efficiency (Steady State) (%) AFUE		81	81
Temperature Rise Range		20-50	20-50
Manifold Pressure (in. wg)			
Natural Gas		3.3	3.3
Gas Valve Quantity		1	1
Gas Valve Pressure Range	Psig	0.235-0.487	0.235-0.487
	in. wg	5.5-13.5	5.5-13.5
Field Gas Connection Size (in.)		3/4	3/4
HIGH-PRESSURE SWITCH (psig)			
Internal Relief (Differential) Cutout		426	426
Reset (Auto.)		320	320
LOSS-OF-CHARGE SWITCH (psig) (LOW-PRESS.)			
Cutout		27	27
Reset (Auto.)		44	44
FREEZE PROTECTION THERMOSTAT (F)			
Opens		30 +/- 5	30 +/- 5
Closes		45 +/- 5	45 +/- 5
RETURN-AIR FILTERS (THROW-AWAY)			
Quantity...Size (in.)		4...20 x 20 x 2	4...20 x 20 x 2
		4...16 x 20 x 2	4...16 x 20 x 2

LEGEND

Bhp = Brake Horsepower

TXV = Thermostatic Expansion Valve

Bels	-	Sound Levels
EER	-	Energy Efficiency Ratio
IPLV	-	Integrated Part Load Values
MCA	-	Minimum Circuit Amps
MOCP	-	Maximum Over-current Protection
FLA	-	Full Load Amps
LRA	-	Locked Rotor Amps
RLA	-	Rated Load Amps

* Fuse or HACR circuit breaker

**Circuit 1 uses the lower portion of the condenser coil and lower portion of the evaporator coils; and Circuit 2 uses the upper portion of both coils. +Rollout switch is manual reset.

NOTE: The PGS300 units have a low-pressure switch (standard) located on the suction side.

NOTE: Minimum allowable temperature of mixed-air entering the heat exchanger during first-stage heating is 45F. There is no minimum mixed-air temperature limitation during second-stage heating. For entering-air temperatures below 45 F both stages of heat must be energized together to minimize condensation issues and ensure proper unit operation.

NOTES:

- In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the over-current protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.

2. Unbalanced 3-Phase Supply Voltage

Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent voltage imbalance.

% Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

LEGENDS AND NOTES

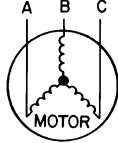
NOTES: 1. Ratings are based on:

Cooling Standard: 80F db, 67F wb indoor entering air temperature and 95F db air entering outdoor unit.

IPLV Standard: 80F db, 67F wb indoor entering air temperature and 80F db entering air temperature.

NOTE: PAS300 is beyond the scope of ARI Certification Program.

EXAMPLE: Supply voltage is 460-3-60.

	AB = 452 v BC = 464 v AC = 455 v	Average Voltage = $\frac{452 + 464 + 455}{3}$ = $\frac{1371}{3}$ = 457
---	--	--

Determine maximum deviation from average voltage.

(AB) 457 - 452 = 5 V

(BC) 464 - 457 = 7 V

(AC) 457 - 455 = 2 V

Maximum deviation is 7 v.

Determine percent voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457} = 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

PGS300 BASE UNIT DIMENSIONS

PGS300	Unit Weight		Corner A		Corner B		Corner C		Corner D		Dim. A		Dim. B		Dim. C	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	ft-in	mm	ft-in	mm	ft-in	mm
PGS300	2000	907	471	214	428	194	526	239	574	260	3-2	965	3-5	1041	1-8	508

1. Dimensions in () are in millimeters.

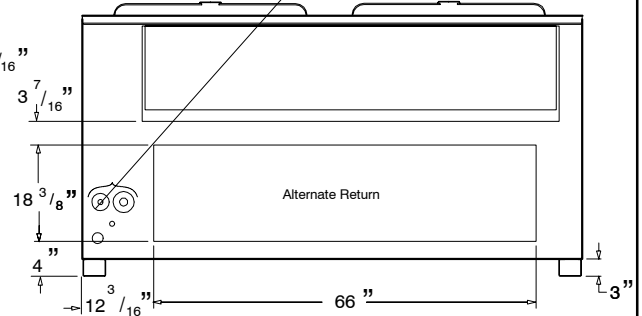
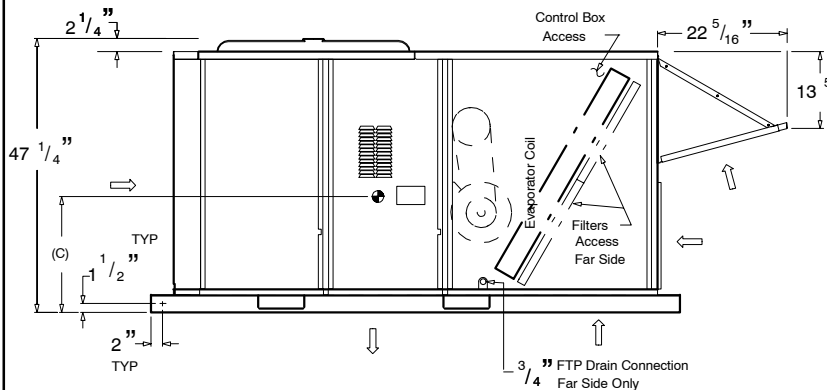
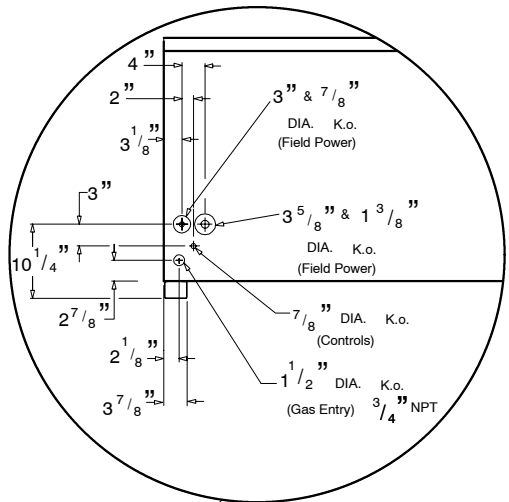
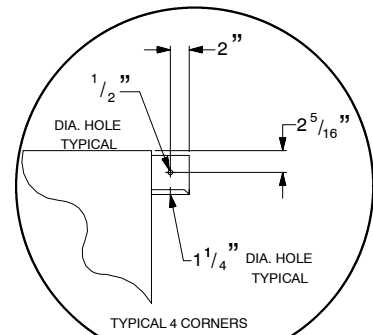
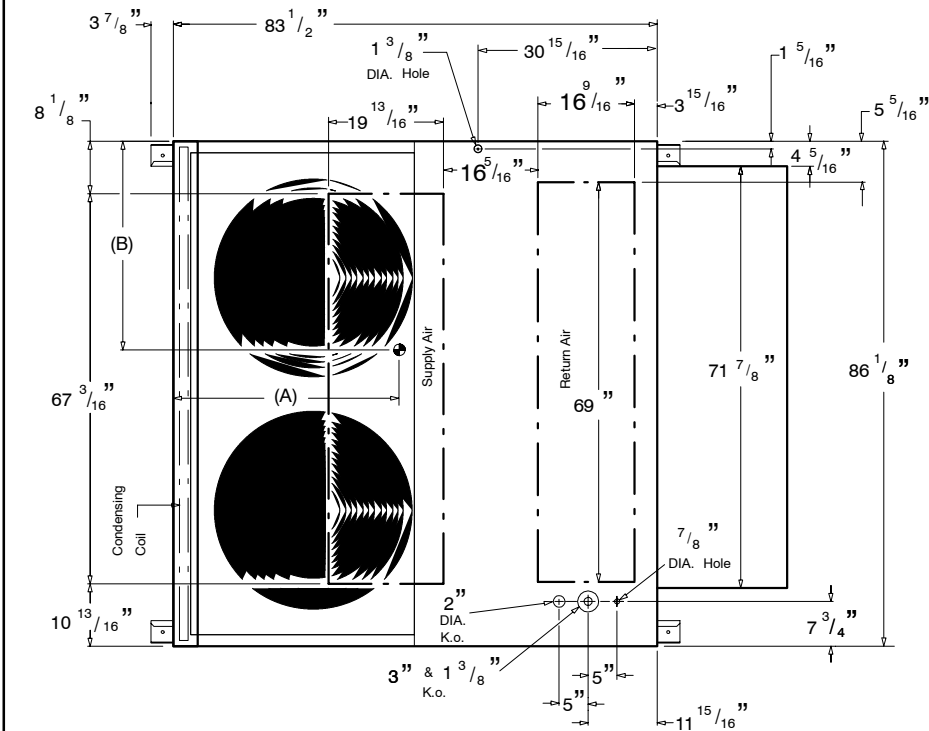
2.  Center of Gravity.

3.  Direction of Airflow

4. Ductwork to be attached to accessory roof curb only.

5. Minimum clearance:

- Rear: 7'-0" (2134) for coil removal. This dimension can be reduced to 4'-0" (1219) if conditions permit coil removal from the top.
 - 4'-0" (1219) to combustible surfaces, all four sides (includes between units).
 - Left Side: 4'-0" (1219) for proper condenser coil airflow.
 - Front: 4'-0" (1219) for control box access.
 - Right side: 4'-0" (1219) for proper operations of damper and power exhaust if so equipped.
 - Top: 6'-0" (1829) to assure proper condenser fan operation.
 - Bottom: 14" (356) to combustible surfaces (when not using curb).
 - Control Box side: 3'-0" (914) to ungrounded surfaces, non-combustible
 - Control Box Side: 3'-6" (1067) to block or concrete walls, or other grounded surfaces.
 - Local codes or jurisdiction may prevail.
6. With the exception of clearance for the condenser coil as stated in Note 5, a removable fence or barricade requires no clearance.
7. Dimensions are from outside of corner post. Allow 0'-5/16" on each side for top cover drip edge.



38-11-38

EXPANDED PERFORMANCE DATA (COOLING) 25 TON (GROSS CAPACITY)															
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity - CFM													
		8,000							9,000						
		Evaporator Air - Ewb (F)/BF													
		54/0.49	58/0.32	62/0.15	67/0.14	72/0.13	76/0.17	80/0.00	54/0.53	58/0.37	62/0.18	67/0.15	72/0.14	76/0.17	80/0.00
75	TC	266	268	280	304	324	352	379	277	276	286	310	336	361	385
	SHC	266	251	246	209	168	137	107	277	269	261	221	178	142	108
	kW	19.5	19.6	19.9	20.5	20.9	21.8	22.4	19.8	19.5	20.0	20.6	21.3	22.0	22.6
85	TC	260	262	272	294	321	344	367	271	272	277	300	326	349	373
	SHC	260	254	243	205	167	135	104	271	264	257	217	175	139	104
	kW	21.6	21.6	22.0	22.5	23.3	23.9	24.6	22.2	21.9	22.1	22.7	23.4	24.1	24.8
95	TC	254	256	262	284	310	332	355	263	263	268	289	316	337	360
	SHC	254	249	238	201	163	131	100	263	263	251	213	171	135	100
	kW	23.8	23.9	24.1	24.8	25.5	26.2	26.9	24.1	24.1	24.3	24.9	25.9	26.4	27.1
105	TC	246	247	253	274	298	319	343	255	255	258	278	302	326	346
	SHC	246	245	233	197	159	127	96	255	255	246	208	166	132	96
	kW	26.3	26.3	26.5	27.2	28.0	28.7	29.5	26.5	26.5	26.6	27.3	28.1	29.0	29.6
115	TC	238	239	243	264	286	306	328	247	246	249	267	290	311	-
	SHC	238	239	228	193	155	123	91	247	246	239	204	162	127	-
	kW	28.9	28.9	29.1	29.7	30.6	31.4	32.1	29.1	29.2	29.3	30.0	30.8	31.5	-

EXPANDED PERFORMANCE DATA (COOLING) 25 TON (GROSS CAPACITY) Cont.															
Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity - CFM													
		10,000							11,250						
		Evaporator Air - Ewb (F)/BF													
		54/0.57	58/0.41	62/0.23	67/0.16	72/0.15	76/0.17	80/0.00	54/0.61	58/0.47	62/0.30	67/0.16	72/0.17	76/0.17	80/0.00
75	TC	286	284	291	314	341	365	390	295	295	298	319	342	367	392
	SHC	286	284	274	232	186	147	108	295	295	285	245	193	151	108
	kW	20.0	20.2	20.2	20.8	21.5	22.1	22.7	20.3	20.3	20.4	20.9	21.2	21.5	21.9
85	TC	278	278	282	304	330	354	378	288	287	289	310	334	359	384
	SHC	278	278	269	228	182	143	105	288	287	278	241	190	148	106
	kW	22.1	22.1	22.2	22.8	23.6	24.2	24.9	22.5	22.4	22.4	23.1	23.7	24.4	25.3
95	TC	270	270	273	293	319	341	364	278	278	280	318	323	346	-
	SHC	270	270	262	223	177	139	101	278	278	269	150	186	144	-
	kW	24.4	24.4	24.4	25.1	25.8	26.5	27.2	24.6	24.6	24.7	30.0	26.0	26.7	-
105	TC	261	262	264	282	306	328	352	269	269	272	285	310	332	-
	SHC	261	262	254	219	173	135	97	269	269	259	232	182	140	-
	kW	26.8	26.8	26.9	27.5	28.3	29.0	29.8	27.0	27.0	27.1	27.6	28.4	29.1	-
115	TC	253	253	255	270	293	315	-	259	260	262	273	297	318	-
	SHC	253	253	245	214	168	131	-	259	260	247	227	177	136	-
	kW	29.3	29.3	29.6	30.1	30.9	31.7	-	29.7	29.6	29.8	30.2	31.1	31.8	-

FORMULAS AND NOTES FOR USING EXPANDED PERFORMANCE DATA

LEGEND

BF - Bypass Factor
 Edb - Entering Dry-Bulb
 Ewb - Entering Wet-Bulb
 kW - Compressor Motor Power Input
 ldb - Leaving Dry-Bulb
 lwb - Leaving Wet-Bulb
 SHC - Sensible Heat capacity (1000 Btuh) Gross
 TC - Total Capacity (1000 Btuh) Gross

- Direct interpolation is permissible. Do not extrapolate.
- The following formulas may be used:
 - $t / ldb = t \text{ edb} - \text{sensible capacity (Btuh)} / (1.10 \times \text{cfm})$
 - $t / wlb = \text{Wet bulb temp. corresponding to enthalpy of air leaving evaporator coil (h/wb)}.$
 - $h / wlb = h \text{ web} - \text{total capacity Btuh} / (4.5 \times \text{cfm})$
 where h ewb = Enthalpy of air entering evap. coil.

3. The SHC is based on 80 F edb temperature of air entering evaporator coil.
 Below 80 F edb, subtract (corr factor x cfm) from SHC.
 Above 80 F edb, add (corr factor x cfm) to SHC,

Bypass Factor (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
0.05	1.04	2.07	3.11	4.14	5.18	Use Formula Below
0.10	0.98	1.96	2.94	3.92	4.91	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	
0.40	0.65	1.31	1.96	2.62	3.27	
0.50	0.55	1.09	1.64	2.18	2.73	
0.60	0.44	0.87	1.31	1.74	2.18	
0.70	0.33	0.65	0.98	1.31	1.64	

Interpolation is permissible.
 Correction factor = $1.10 \times (1 - \text{BF}) \times (\text{edb} - 80).$

CIRCULATING BLOWER PERFORMANCE - PGS300(H,L)275A (10.0 HP Standard Motor)

CFM	External Static Pressure in Inces Water Column - Dry coil With Filter																	
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
7000	941	2769	1002	3140	1061	3528	1117	3934	1171	4356	1224	4794	1274	5248	1323	5718	1371	6204
7500	999	3348	1057	3742	1112	4152	1166	4579	1218	5020	1268	5478	1316	6960	1364	6437	1410	6939
8000	1058	4007	1113	4424	1165	4856	1216	5304	1266	5766	1314	6243	1360	6734	1406	7239	1450	7759
8500	1117	4750	1169	5190	1219	5645	1268	6114	1315	6597	1361	7094	1406	7605	1449	8129	1492	8666
9000	1177	5583	1226	6047	1274	6524	1320	7015	1365	7520	1410	8037	1453	8568	1495	9111	1536	9667
9500	1237	6511	1284	6999	1329	7499	1374	8012	1417	8538	1459	9076	1501	9627	1541	10190	-	-
10000	1297	7450	1342	8051	1385	8574	1428	9110	1469	9657	1510	10217	-	-	-	-	-	-
10500	1358	8674	1400	9209	1442	9755	1483	10314	1523	10883	-	-	-	-	-	-	-	-
11000	1418	9919	1459	10478	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11250	1449	10585	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

W = Watts

NOTES:

1. Maximum continuous bhp is 10.20 (208/230, 575 v) or 11.80 (460 v) and the maximum continuous watts are 9510 (208/230, 575 v) or 11,000 (460 v). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.

CIRCULATING BLOWER PERFORMANCE - PGS300(H,L,S)360A (10.0 HP Standard Motor)

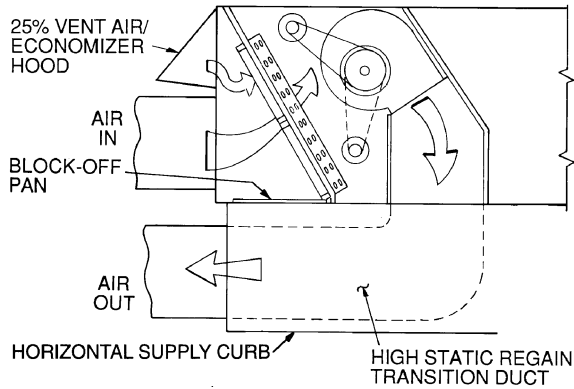
CFM	External Static Pressure in Inches Water Column - Dry coil With Filter																	
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8	
	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W	RPM	W
7000	992	3348	1051	3668	1106	3995	1160	4331	1212	4675	1262	5026	1311	5385	1359	5751	1405	6124
7500	1055	3947	1110	4277	1162	4615	1214	4960	1263	5312	1311	5672	1358	6039	1403	6412	1448	6792
8000	1118	4610	1170	4950	1220	5298	1268	5653	1315	6014	1361	6382	1406	6767	1449	7137	1492	7524
8500	1182	5339	1231	5690	1278	6047	1324	6411	1369	6782	1413	7158	1456	7541	1498	7929	1530	8323
9000	1246	6136	1292	6498	1337	6865	1381	7239	1424	7618	1466	8003	1507	8393	1548	8790	-	-
9500	1310	7005	1354	7377	1397	7754	1439	8137	1480	8525	1520	8918	-	-	-	-	-	-
10000	1374	7947	1416	8329	1457	8715	1497	9107	1537	9504	-	-	-	-	-	-	-	-
10500	1439	8964	1479	9356	1518	9752	-	-	-	-	-	-	-	-	-	-	-	-
11000	1503	10059	1542	10460	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11250	1536	10636	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

W = Watts

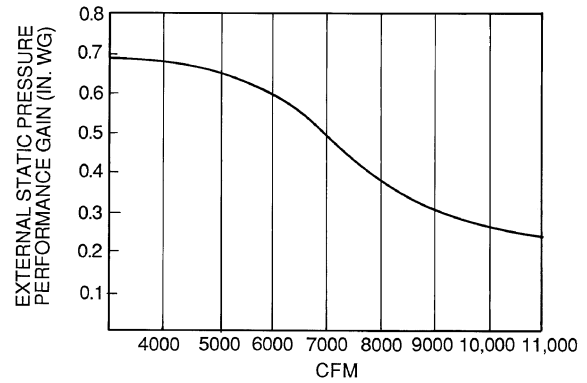
NOTES:

1. Maximum continuous bhp is 10.20 (208/230, 575 v) or 11.80 (460 v) and the maximum continuous watts are 9510 (208/230, 575 v) or 11,000 (460 v). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.

HORIZONTAL SUPPLY/RETURN FAN PERFORMANCE WITH HIGH STATIC REGAIN ADAPTER CURB



NOTE: The high static regain adapter accessory may be used to provide horizontal supply//return.



NOTE: The high static supply/return adapter accessory improves fan performance by increasing external static pressure by amount shown above.

Evaporator Fan Motor Efficiency

UNIT	MOTOR EFFICIENCY (%)
PGS300 (10.0 Hp)	89.5

Altitude Compensation* - PGS300

ELEVATION (ft.)	NATURAL GAS ORIFICE SIZE	
	Low Heat	High Heat
0 - 3,000	30	29
3,000 - 7,000	31	30
7,000 - 9,000	32	31
9,000 - 10,000	33	31
above 10,000	35	32

Altitude Derating Factor* - All Units

ELEVATION (ft)	MAXIMUM HEATING VALUE (Btu/ft ³)
0-2,000	1,100
2,001-3,000	1,050
3,001-4,000	1,000
4,001-5,000	950
5,001-6,000	900

*Derating of the unit is not required unless the heating value of the gas exceeds the values listed in the table above, or if the elevation exceeds 6000 ft. Derating conditions must be 4% per thousand ft above sea level. For example, at 4000 ft, if the heating value of the gas exceeds 1000 Btu/ft³, the unit will require a 16% derating. For elevations above 6000 ft, the same formula applies. For example, at 7000 ft, the unit will require a 28% derating of the maximum heating value per the National Fuel Gas Code.

Performance Data (Cont.)

OUTDOOR SOUND POWER										
UNIT	SOUND RATING (60Hz)	A - Weighted (db)	OCTAVE BANDS							
			63	125	250	500	1000	2000	4000	8000
PGS300	9.4 Bels	94.1	98.7	92.3	93.8	90.9	89.6	85.9	80.3	74.3

Bels - Sound Levels (1 bel = 10 decibels).

FAN RPM AT MOTOR PULLEY SETTINGS *													
UNIT	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1-1/2	2	2-1/2	3	3-1/2	4	4-1/2	5	5-1/2	6
PGS300	**	**	1283	1269	1247	1225	1203	1182	1160	1138	1116	1095	1066

* Approximate fan rpm shown.

** Due to belt and pulley size, pulley cannot be set to this number of turns open.

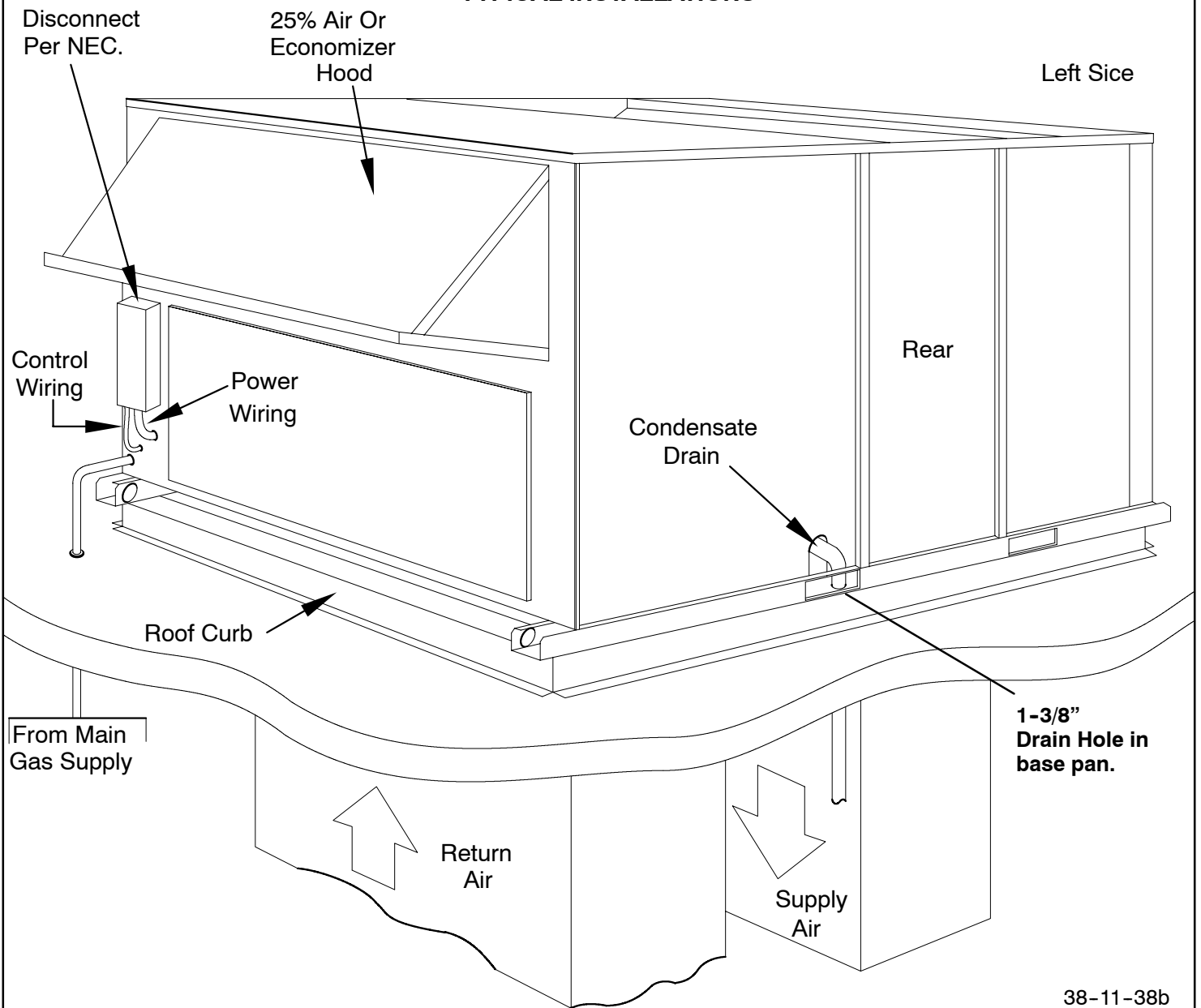
EVAPORATOR FAN MOTOR PERFORMANCE					
UNIT	Unit Voltage	Maximum Acceptable Continuous BHP*	Maximum Acceptable Continuous BkW*	Maximum Acceptable Operating Watts	Maximum Amp Draw
PGS300	208/230	10.20	7.61	9,510	28.0
	460	11.80	8.80	11,000	14.6
	575	10.20	7.61	9,510	13.0

Bhp - Brake Horsepower.

* Extensive motor and electrical testing on these units ensures that the full horsepower range of the motors can be utilized with confidence. Using your fan motors up to the horsepower ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

Note: All indoor fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.

TYPICAL INSTALLATIONS

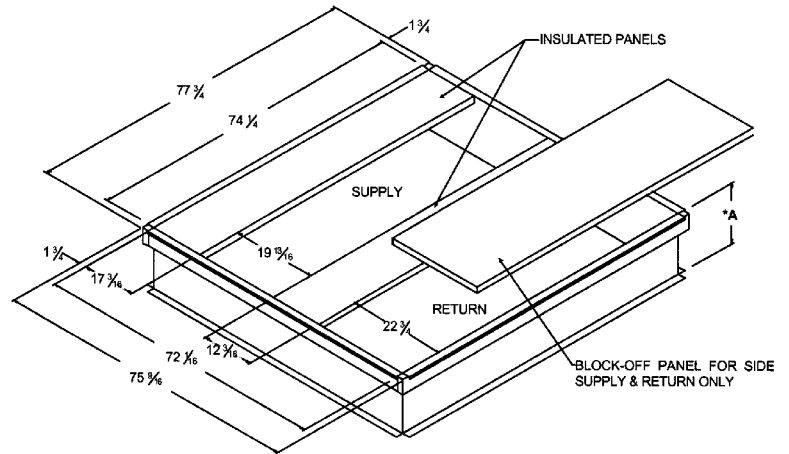


CLEARANCES: See Page 5

ACCESSORIES

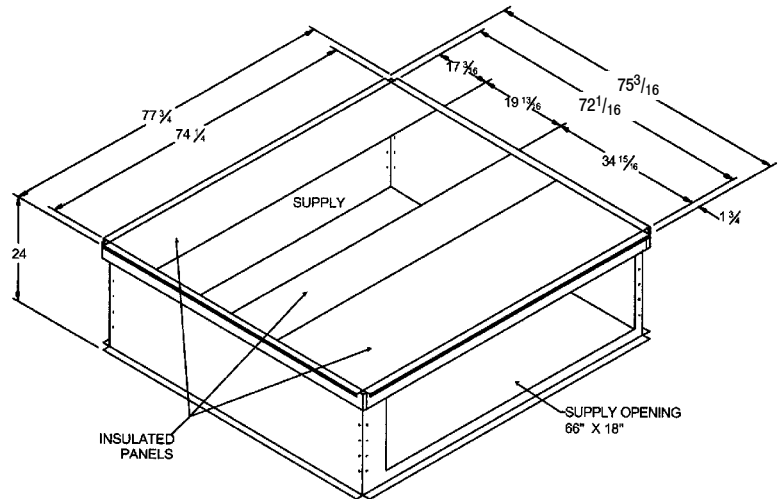
VERTICAL DISCHARGE ROOF CURBS

Description	Model Number	Where Used
14" High	AXB060CMA	25 Ton
24" High	AXB060CHA	25 Ton



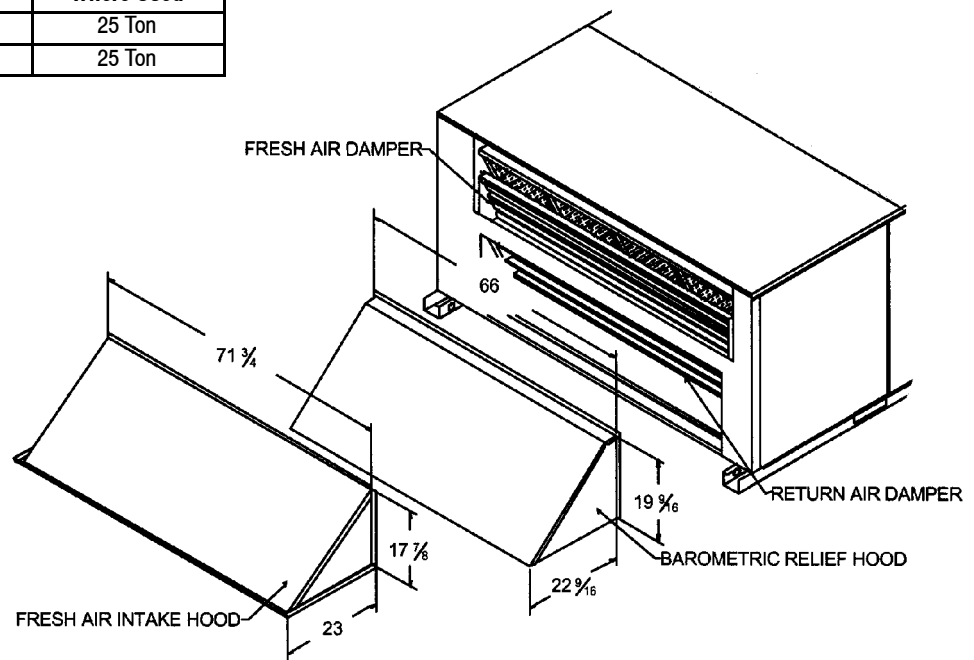
HORIZONTAL DISCHARGE ROOF CURBS

Description	Model Number	Where Used
24" High	AXB065CHA	25 Ton
24" High w/ Duct	AXB165CHA	25 Ton



ECONOMIZER - HORIZONTAL / DOWNFLOW

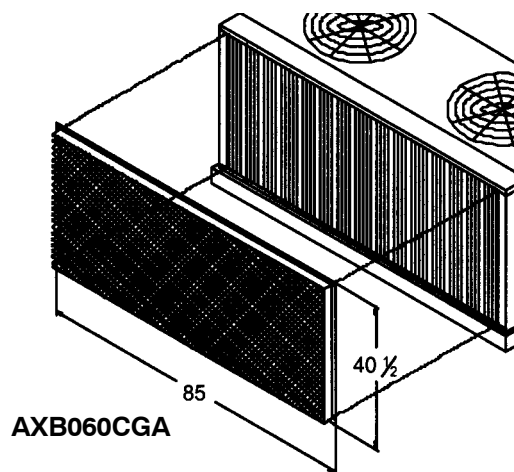
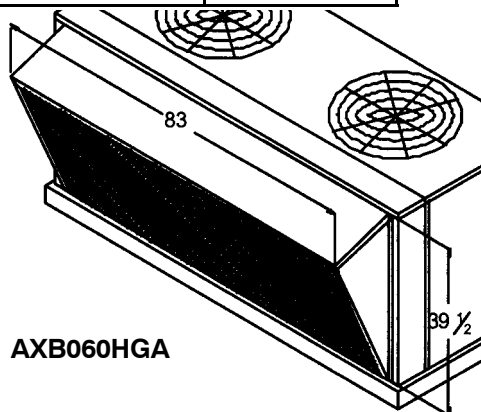
Description	Model Number	Where Used
Fully Modulating	AXB060EMA	25 Ton
Three Position	AXB060EPA	25 Ton



ACCESSORIES (CONT.)

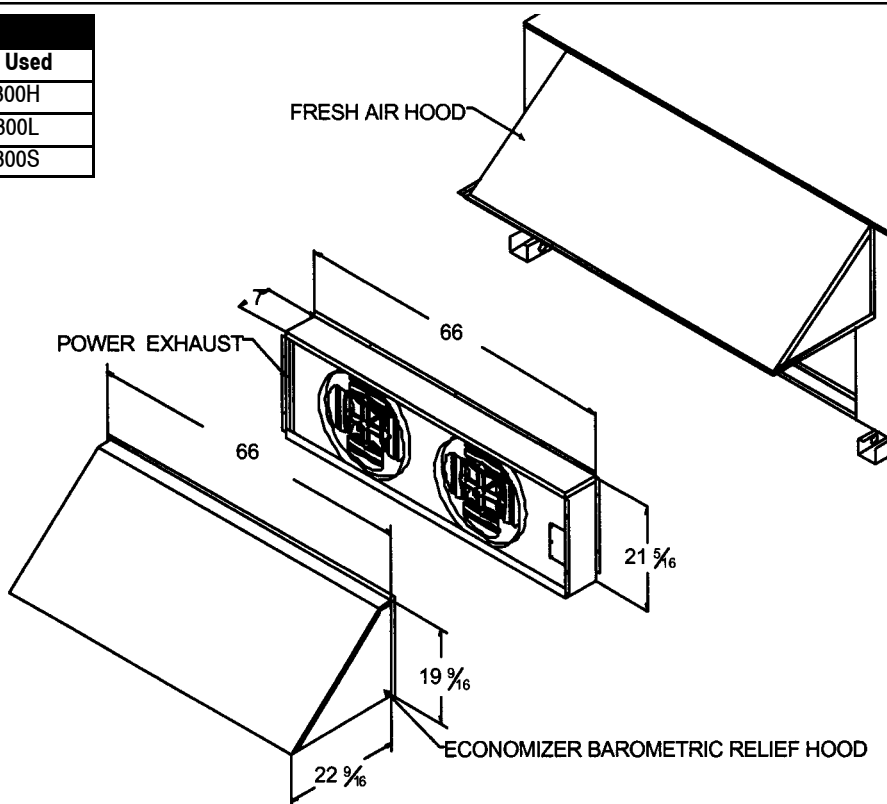
COIL PROTECTION

Description	Model Number	Where Used
Coil Guard	AXB060CGA	25 Ton
Hail Guard	AXB060HGA	25 Ton



POWER EXHAUST

Description	Model Number	Where Used
208/230 Volt	AXB060PEH	PGS300H
460 Volt	AXB060PEL	PGS300L
575 Volt	AXB060PEs	PGS300S



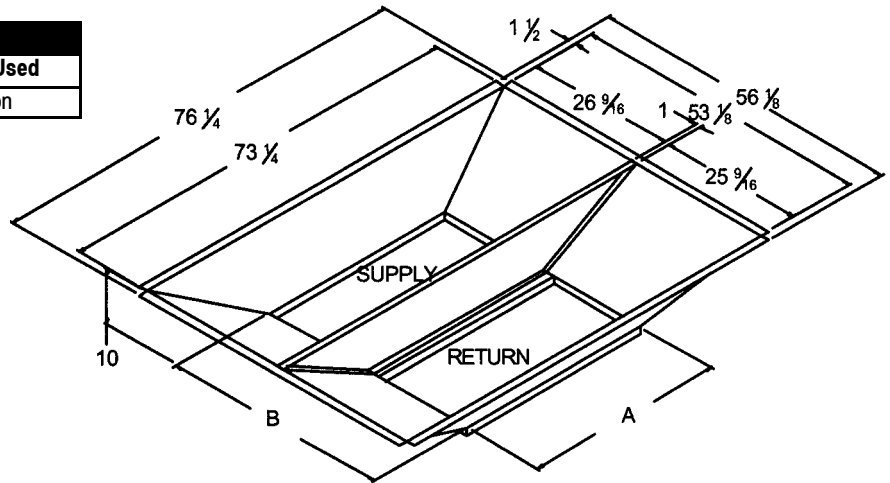
POWER EXHAUST PERFORMANCE DATA

Model	Volt/Phase/ Hertz	Motor			Unit					
		Qty	HP	RPM	Cir. Qty	LRA	FLA	MCA	Fuse Size	@0.1 CFM
AXB060PEH	208-230/3/60	2	3/4	1075	1	24.9	10.0	12.6	15	9,600
AXB060PEL	460/3/60	2	3/4	1075	1	N/A	4.4	5.6	8	9,600
AXB060PES	575/3/60	2	3/4	1055	1	N/A	3.0	3.8	5	9,600

ACCESSORIES (CONT.)

CONCENTRIC DUCT KIT

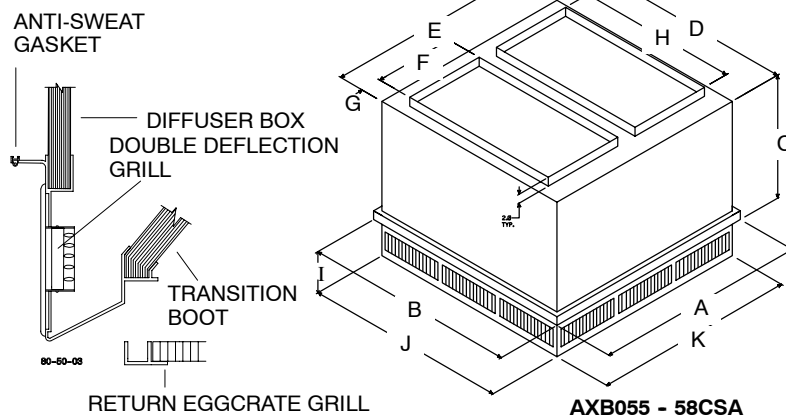
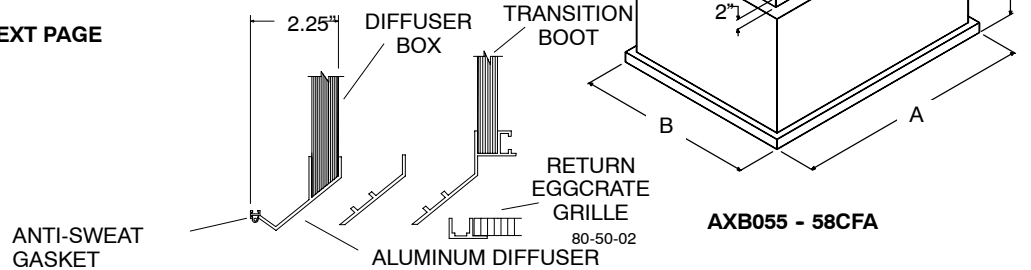
Description	Model Number	Where Used
24" x 48"	AXB260CTA	25 Ton



CONCENTRIC DIFFUSER

Description	Model Number	Used With
Flush Mount	AXB058CFA	25 Ton
Step Down	AXB058CSA	25 Ton

SEE PERFORMANCE DATA ON NEXT PAGE



DIMENSIONS

Model Number	A	B	C	D	E	F	G	H	I	J	K	Duct Size
AXB058CFA	59-5/8	59-5/8	35-1/4	57	57	24	2-1/4	48	N/A	N/A	N/A	24 x 48
AXB058CSA	59-5/8	59-5/8	30-5/8	57-1/2	57-1/2	24	2-1/2	48	11-1/8	57-1/2	57-1/2	24 x 48

ACCESSORIES (CONT.)

CFA SERIES PERFORMANCE DATA

Part No. AXB	CFM	Static Pressure In. WC	Throw Feet	Neck Velocity FPM	Jet Velocity FPM	db Sound Level
058CFA	7200	.39	26-35	996	2093	45
	7400	.41	28-37	1024	2151	45
	7600	.43	29-38	1051	2209	45
	7800	.47	40-50	1079	2276	45
	8000	.50	42-51	1107	2326	50
	8200	.53	43-52	1134	2384	50

CSA SERIES PERFORMANCE DATA

Part No. AXB	CFM	Static Pressure In. WC	Throw Feet	Neck / Jet Velocity FPM	db Sound Levels
058CSA	7200	.39	33-38	827	25
	7400	.41	35-40	850	25
	7600	.43	36-41	873	25
	7800	.47	38-43	896	30
	8000	.50	39-44	918	30
	8200	.53	41-46	941	30

CSA/CFA NOTES:

1. All data is based on the Air Diffusion Council guidelines.
2. Throw data is based on Terminal Velocities of 75 FPM using isothermal air.
3. Throw is based on diffuser blades being directed in a straight pattern.
4. Actual sound levels are less than those shown.
5. Minimum height 9' above floor.

FRESH AIR DAMPERS

Description	Model Number	Used With
35% Motorized	AXB060FMA	25 Ton

NATURAL TO LP CONVERSION KIT

Model Number	Used With
AXB265LPA	25 Ton

LOW AMBIENT KIT

Model Number	Used With
AXB260LAA (25°)	25 Ton

CONTROLS

OPERATING SEQUENCE

Cooling, Units Without Economizer – When thermostat calls for cooling, terminals G and Y1 are energized. The indoor (evaporator) fan contactor (IFC) and compressor contactor no. 1 (C1) are energized, and evaporator-fan motor (IFM), compressor no. 1, and condenser fan(s) start. The condenser-fan motor(s) runs continuously while unit is cooling. When the thermostat calls for a second stage of cooling by energizing Y2, compressor contactor no. 2 (C2) is energized and compressor no. 2 starts.

Heating, Units Without Economizer

NOTE: The PGS300 units have 2 stages of heat. When the thermostat calls for heating, power is sent to W on the IGC (integrated gas unit controller) board. An LED (light-emitting diode) on the IGC board will be on during normal operation. A check is made to ensure that the rollout switch and limit switch are closed. The induced-draft motor is then energized, and when speed is proven with the hall effect sensor on the motor, the ignition activation period begins. The burners will ignite within 5 seconds.

If the burners do not light, there is a 22-second delay before another 5-second attempt. If the burners still do not light, this sequence is repeated for 15 minutes. After the 15 minutes have elapsed, if the burners still have not lighted, heating is locked out. To reset the control, break 24-v power to the thermostat.

When ignition occurs the IGC board will continue to monitor the condition of the rollout and limit switches, the hall effect sensor, as well as the flame sensor. If the unit is controlled through a room thermostat set for fan auto., 45 seconds after ignition occurs, the indoor-fan motor will be energized. If for some reason the overtemperature limit opens prior to the start of the indoor fan blower, on the next attempt, the 45-second delay will be shortened to 5 seconds less than the time from initiation of heat to when the limit tripped. Gas will not be interrupted to the burners and heating will continue. Once modified, the fan on delay will not change back to 45 seconds unless power is reset to the control.

When additional heat is required, W2 closes and initiates power to the second stage of the main gas valve. When the thermostat is satisfied, W1 and W2 open and the gas valve closes, interrupting the flow of gas to the main burners. If the call for W1 lasted less than 1 minute, the heating cycle will not terminate until 1 minute after W1 became active. If the unit is controlled through a room thermostat set for fan auto., the indoor-fan motor will continue to operate for an additional 45 seconds then stop. If the overtemperature limit opens after the indoor motor is stopped within 10 minutes of W1 becoming inactive, on the next cycle the time will be extended by 15 seconds. The maximum delay is 3 minutes. Once modified, the fan off delay will not change back to 45 seconds unless power is reset to the control.

A LED indicator is provided on the IGC to monitor operation. The IGC is located by removing the side panel and viewing the IGC through the view port located in the control box access panel. During normal operation, the LED is continuously on.

APPLICATION DATA

1. DUCTWORK – Ductwork should be attached to the curb on all units. Interior installation may proceed before unit is set in place on roof. If ductwork will be attached to the unit, do not drill in condensate drain pan area – leaks may result.
2. THRU-THE-CURB SERVICE CONNECTIONS – Roof curb connections allow field power wires, control wires, and gas supply to enter through the roof curb opening.
3. THERMOSTAT – Use of 2-stage cooling thermostat is recommended for all units. A 2-stage cooling thermostat is required on units with accessory economizer to provide integrated cooling.
4. HEATING-TO-COOLING CHANGEOVER – All units are automatic changeover from heating to cooling when automatic changeover thermostat and subbase are used.
5. AIRFLOW – Units are draw-thru on cooling and blow-thru on heating.
6. MAXIMUM AIRFLOW – To minimize the possibility of condensate blow-off from evaporator, airflow through units should not exceed 500 cfm/nominal ton.
7. MINIMUM AIRFLOW – The minimum airflow for cooling is 300 cfm/nominal ton.
8. MINIMUM AMBIENT COOLING OPERATION TEMPERATURE – Units are designed to operate at outdoor temperatures down to 40 F.
9. MAXIMUM OPERATING OUTDOOR-AIR TEMPERATURE – For cooling, this temperature is 125 F. Refer to Cooling Capacities tables.
10. HIGH ALTITUDE – A change to the gas orifice may be required at high altitudes. Refer to Altitude Compensation charts.
11. MINIMUM TEMPERATURE – Air entering the heat exchanger in heating must be a minimum of 50 F continuous and 45 F intermittent. For entering-air temperatures below 45 F both stages of heat must be energized together to minimize condensation issues and ensure proper unit operation.
12. INTERNAL UNIT DESIGN – Due to the internal unit design (draw-thru over the motor), air path, and specially designed motors, the full horsepower (maximum continuous bhp) listed in the Physical Data table and the notes following each Fan Performance table can be utilized with extreme confidence. Using motors with the values listed in the Physical and Fan Performance Data tables will not result in nuisance tripping or premature motor failure. The unit warranty will not be affected.

CONDENSER FAN:

The unit shall have a single direct drive propeller fan/motor assembly mounted directly to a vertical-discharge grille panel that is easily removable. Motors shall have permanently lubricated sleeve bearings and inherent overload protection.

EVAPORATOR BLOWER:

The units shall have a single belt driven evaporator blower. The motor shall have permanently lubricated ball bearings and internal overload protection. An adjustable motor drive sheave for matching air flow requirements shall be standard. Additionally high static accessory kits shall be available for air flows above the standard requirement.

HEATING SECTION:

The units shall have aluminized steel tubular heat exchangers located on the discharge side of the evaporator blower and equipped with a two-stage gas valve. The units shall have in-shot burners that are ignited by an electronic spark with flame proving feature and protected by both a limit switch and flame roll-out switch.

COILS:

The evaporator and condenser coils shall be fabricated with aluminum fins mechanically bonded to copper tubing. Both coils shall be pressure tested prior to assembly into the unit and electronically leak tested after assembly onto the unit. The evaporator coil shall be protected from dust and debris on the return air side by factory installed 2" air filters.